

## CLAIMS

1. A game device, particularly aimed at seeking the equilibrium of a body, comprising a stationary base (7), a support body (2), backing means (6) for supporting said body (2) on said base (7), allowing free swinging or tilting thereof, a plurality of seats (4) associated to said body (2), a plurality of pieces (5) of predetermined weights, which may be removably inserted in said seats (4) in such positions as to hold said body (2) in a static equilibrium position (P), characterized in that it comprises control means (8) which selectively interact with said body (2) to hold it at least temporarily in said equilibrium position (P) upon insertion of said pieces (5), both/either to limit its inclination relative to said base (7), thereby preventing said pieces (5) from coming out and falling from said seats (4) and/or to check if the equilibrium position (P) has been reached.
- 15 2. A game device as claimed in claim 1, characterized in that said backing means (6) include a point support member (12, 23) which defines a point for omnidirectional tilt or rotation of said body (2) about a point that substantially coincides with its center of gravity (G).
- 20 3. A game device as claimed in claim 1, characterized in that said backing means (6) include a linear support member (27, 28; 23', 23"; 23'') which defines a swinging axis for said body (2) substantially passing through its center of gravity (G).
- 25 4. A game device as claimed in any preceding claim, characterized in that said body (2) is a substantially flat board (T) having a top surface (3), a bottom surface (16) and an axis (V) substantially perpendicular to said surfaces (3, 16) and passing through its center of gravity (G).
- 30 5. A game device as claimed in claim 4, characterized in that said board (T) has a plan shape that is selected from the group consisting of polygons, circles, ellipses, closed curves.

6. A game device as claimed in claim 2, characterized in that said point support member (12) is placed on the top of a load bearing column (9) which is anchored to said base (7).

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7. A game device as claimed in claim 6, characterized in that said point support member (12) is a ball (12) or a conical or frustoconical end of said support column (9), which may be engaged in a concave seat, formed on the bottom surface (16) of said board (T) in the vicinity of its center of gravity (G).

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8. A game device as claimed in claims 2 and 4, characterized in that said point support member (6) is a single substantially vertical flexible hanging member (23).

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9. A game device as claimed in claim 8, characterized in that said single flexible hanging member (23) has a bottom end (24) anchored to said board (T) at the center of gravity (G) thereof and the other end (25) anchored to a support frame (26) that is integral with said base (7).

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10. A game device as claimed in claims 3 and 4, characterized in that said single linear support member (6) comprise two pivots (27, 28) anchored to said board (T) along an axis (H) that passes through the center of gravity (G) of the latter, said pivots (27, 28) being pivotally supported in corresponding holes (29, 30) of a support frame (26) which is integral with said base (7).

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11. A game device as claimed in claim 10, characterized in that said linear support member (6) comprises a plurality of substantially vertical flexible hanging members (23', 23", 23''), having equal lengths and respective bottom ends (24', 24", 24'') anchored to said board (T) and respective top ends (25', 25", 25'') anchored to said support frame (26) that is integral with said base (7).

12. A game device as claimed in claim 11, characterized in that the

bottom ends (25', 25", 25'') of said plurality of flexible hanging members (23', 23", 23'') are aligned along a transverse axis containing the center of gravity (G) of said board (2).

5        13. A game device as claimed any preceding claim, characterized in that said control means (8) include positioning and abutment surfaces which may be moved between body positions of engagement and disengagement of said body (2) for interaction therewith.

10        14. A game device as claimed in claims 4 and 13, characterized in that said positioning and abutment surfaces comprise the free ends (15) of a plurality of substantially vertical rods (13) having respective bottom ends (14) anchored to said base (7) in peripheral positions with respect to said load bearing column (9).

15        15. A game device as claimed in claim 14, characterized in that each of said rods (13) is height adjustable to move its free ends (15) up or down from said position of engagement to said position of disengagement of the bottom surface (16) of said board (T).

20        16. A game device as claimed in claims 4 and 13, characterized in that said positioning and abutment surfaces comprise the free top ends (18) of at least three rods (17) having angularly staggered bottom ends, fitted on a sleeve (19) which is rotatably and slideably mounted on said load bearing column (9), which is integral with said base (7).

25        17. A game device as claimed in claim 16, characterized in that said free top ends (18) are shaped in such a manner as to engage the bottom surface (16) of said board (T), when said sleeve (19) is partly raised.

30        18. A game device as claimed in claim 17, characterized in that both said load bearing column (9) and said sleeve (19) have respective inclined edges (20, 21), which are inclined with respect to the horizontal and define cam means in

mutual interaction upon rotation of said sleeve (19) relative to said column (9).

19. A game device as claimed in claim 18, characterized in that said sleeve (19) has a substantially radial operating rod (22) which may be driven by a 5 player to rotate said sleeve (19) about the axis (V) of said load bearing column (9), so as to cause the interaction between said cam means (20, 21) and the resulting axial displacement of said sleeve (19), and to move the free ends (18) of said rods (17) between said positions of engagement and disengagement.

10 20. A game device as claimed in claim 4, characterized in that said seats (4) are equally spaced and arranged symmetrically with respect to two orthogonal axes (H, K) passing through the center of gravity (G) of said board (T).

15 21. A game device as claimed in claim 20, characterized in that said arrangements of said pieces (5) in their respective seats (4) of said board (T) are included in a discrete number of combinations selected out of the possible solutions, which are calculated in such a manner as to ensure said static equilibrium position (P) of said board (T).

20 22. A game device as claimed in claim 21, characterized in that said seats (4) are arranged over an equal number (n) of lines and columns.

25 23. A game device as claimed in claim 21, characterized in that said seats (4) are 16 in number.

24. A game device as claimed in claim 1, characterized in that said pieces (5) have substantially the same volume and appropriately different weights, according to a predetermined algorithm.

30 25. A game device as claimed in claim 24, characterized in that said algorithm is expressed by a formula such as  $P_n - P_{n-1} = K_1$ .

26. A game device as claimed in claim 24, characterized in that said algorithm is expressed by a formula such as  $P_n / P_{n-1} = K_2$  .

27. A game device as claimed in claim 24, characterized in that said 5 algorithm is expressed by a formula such as  $P_n = P_1 + P_2 + \dots + P_{n-1}$  .

28. A game device as claimed in claim 24, characterized in that said pieces (5) have at least a lower portion with a shape that is substantially identical and complementary to that of the seats (4), to allow insertion thereof regardless of 10 their overall shape and weight.

29. A game device as claimed in claim 28, characterized in that said pieces (5) have different colors depending on their weights, to facilitate memorization thereof by the players.

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30. A game device as claimed in claim 24, characterized in that said pieces (5) are substantially spherical bodies, that are filled with heavy materials to change their overall weight.

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31. A game device as claimed in any preceding claim, characterized in that said body (2) is a three-dimensional object (O) having a substantially convex lower portion which defines a surface supported by said base (7).

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32. A game device as claimed in claim 31, characterized in that said lower portion is substantially spherical or cylindrical, whose bottom end is crossed by an axis (V) passing through the center of gravity (G) of said body (2).

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33. A game device as claimed in claim 31, characterized in that said seats (4) are housings fixed on outer surface of said body (2) directly or through appropriate support members.

34. A game device as claimed in any preceding claim, characterized in

that its parts are made from materials selected from the group consisting of plastic materials, PVC or polyurethane, wood, plexiglas, and metals such as aluminum or steel or alloys thereof.